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ABSTRACT

Nineteen students, ranging in age from 8 to 18, served as subjects in an investigation of the effect of an individualized reading tutorial program on the locus of control (LOC) and locus of evaluation (LOE) of children with reading disabilities. Over a 12-week period, the subjects received from 24 to 60 50-minute sessions of individualized reading tutoring. An IQ test, a standardized reading test, a locus of evaluation/control scale, and a locus of control scale were used for pretesting and posttesting. The results suggested that the disabled readers varied in levels of LOC and LOE, that they increased in reading accuracy as they became more internally controlled, and that their reading comprehension was related to LOC. Neither LOE nor LOC increased significantly over the period of individualized instruction. (FL)

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The Effect of Individual Reading Instruction on Locus of Control and Locus of Evaluation

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Abstract

The purpose of this study was to examine the effect of an individualized reading tutorial program on the locus of control and locus of evaluation of children with reading disabilities. The general hypothesis was that there is a significant relationship between the reading ability and locus of control, as well as locus of evaluation, of disabled readers. In addition, it was assumed that locus of control, and/or locus of evaluation, would tend to be more internal as the subjects were individually tutored and motivated toward success in reading. Results suggest that disabled readers vary in levels of LOC and LOE; they increase in reading accuracy as they become more internally controlled; and their reading comprehension is related to LOC. Neither LOE nor LOC increased significantly over the 12-week program of individualized instruction.

The Effect of Individual Reading Instruction on Locus of Control and Locus of Evaluation

Literacy in America has become an issue of great concern to educators in this decade. Reading disabilities are found at all ages and across socio-economic categories. The magnitude of this problem is emphasized in estimates that from three to five percent of the school-age population have serious reading problems (Wilson, 1977, 4).

Various "causes" of reading disabilities have been identified. Among these, affective elements of individual development have long been recognized as influencing reading achievement (Ekwall, 1973, 1976; Stauffer, 1967). For example, a positive significant relationship exists between reading achievement and self-concept, i.e. a person's perception of himself and his role in his environment. A person's perception of his role in his environment is, in part, dependent on two personality constructs, locus of control (LOC), and locus of evaluation (LOE) (Miller, 1963).

Locus of control is of particular interest because it has been noted as one of the non-cognitive factors significantly affecting learning abilities (McWilliams & McWilliams, 1976, 175). And although the relationship between instructional settings and LOC has been examined (e.g. Trotta, 1975;

Varadi, 1974), the effect of instruction on the LOC of the disabled reader has not been adequately researched.

Research of LOE is of interest because it has been shown to influence an individual's self-concept (Miller, 1963) and because no research in the area of reading has been reported examining this aspect of role perception.

Various kinds of developmental and remedial reading programs have been designed to help disabled readers (Dallman, 1974; Dechant, 1970; DeBoer & Dallman, 1965). Of these programs, individual tutoring has been shown to be an effective instruction/learning environment and an effective remediation technique for a variety of reading disabilties (Harris & Smith, 1972). For this reason, the instruction setting in which LOC and LOE were studied was the individualized tutorial setting.

The purpose of this study was to examine the effect of an individualized reading tutorial program on children's locus of control and locus of evaluation.

Recent research has begun to reveal significant relationships between locus of control and achievement (Culver & Morgan, 1977a; Joe, 1971). This research indicates that students with internal LOC make greater gains in reading achievement than do students with external LOC.

An explanation of locus of control and why the rationale for locus of evaluation is related to achievement is based on

research of Butterfield (1964) and Rotter (1966). Both of these researchers define locus of control as the interpretation of reinforcement to or feedback from behavior. For example, when a child considers the reinforcement not entirely dependent upon his or her actions or knowledge, but controlled by other people, luck, or fate, he or she is categorized with those who tend to be "externally" controlled. On the other hand, when a child considers the reinforcement to come as a result of his or her own behavior or knowledge, he or she tends to be "internally" controlled (Rotter, 1966).

As a child behaves in a particular way, the response to his actions sets up an expectancy on the part of the child so that similar future behavior reinforced in the same way develops increased expectancy. This single example broadens and is generalized over all of life's experiences so that a person tends either to believe there is a casual relationship between one's own behavior and the consequences (internal locus of control) or to believe that there is no dependable nor predictable behavior-consequence sequence, and the outcome depends on chance, fate, or action of others (external locus of control).

Phares (1957) and others (Holden & Rotter, 1962; James & Rotter, 1958) concluded that when subjects believe that the task is skill rather than chance (or luck), the reinforcement

has a greater effect on raising or lowering expectancies for future reinforcements. Also, the "skill-believers" changed their expectancies more often, as well as tried more often and for a longer period of time, to do the task successfully. Indications from the research are that "subjects who feel they have control of the situation, are more likely to exhibit perceptual behavior that will better enable them to cope with potentially threatening situations than those subjects who feel chance or other noncontrollable forces determine whether or not their behavior will be successful" (Rotter, 1968, 8). When a person believes in external control of his or her behavior, past experience is relied upon less, he or she learns less, and may learn the wrong things.

External LOC is related to general passivity, and belief in luck serves to preserve one's self-esteem in the face of failure and curtail sustained endeavor (Rotter, 1966, 3). It is crucial that a child believe it is within his/her power to reach goals he/she values, that he/she accept responsibility for his/her success or failure, and that he/she persist at the task (Varadi, 1974). Thus, not only is the reinforcement important, but whether or not the student feels his/her own performance determines if he/she will or will not be successful at the task is decidedly important.

Recent research has begun to reveal significant relationship between LOC and reading achievement (Culver & Morgan, 1977b; Norwicki & Strickland, 1973; Varadi, 1974). Some studies support evidence that people who perceive themselves as having more control over events in their personal world spend more time in intellectual activities and exhibit more intense interest in academic pursuits (Joe, 1971) and that LOC is predictive to social behavior, learning performance, and achievement-related activities (Lefcourt, 1968). A logical extension would be to expect children who are failing or not achieving in school to be externals. Indeed, Shaw and Uhl (1971) found that the higher the external score, the lower the reading score.

Other studies (Marsh, 1975; Miller, 1963) are inconsistent with the above, finding no reliable relationship between LOC and reading achievement or academic achievement. However, both studies imply the need for further dimensional analysis of the internal control construct, as in self-evaluation and acceptance of responsibility.

Locus of evaluation (LOE) is defined as "the extent to which an individual has internalized a set of standards and values by which to judge his actions or is dependent upon some external frame of reference" (Miller, 1963, 3). LOE and LOC are similar in that they both are personality

constructs constituting role perception. Whether or not a person believes he or she is responsible for the reinforcement is a dimension of a person's perception of his role in his environment. LOE, however, differs from LOC in that LOE appears to be related to self-esteem because it is a value judgment, and evaluation of one's own relative effect on controlling his or her environment (self-evaluation) (Marsh, 1975).

Therefore, LOE may also influence reading achievement in that children with internal LOE appear to behave more aggressively and with less withdrawal than those with external LOE (Miller, 1963). These characteristics are often associated with achievement; therefore, LOE may also influence reading achievement.

Methodology

Sample

The sample consisted of 19 school-age subjects (males and females) enrolled in an individualized tutorial reading program. Enrollment was initiated by parents. The subjects were referred to the program because of various reading disabilities.[1] No control over demographic or socio-economic characteristics was possible.

At the time of pretesting, the age range of the subjects was 8 years to 18 years. The means of Verbal Score, Performance

Score, and Full Scale Score of the intelligence measurement for these subjects were all in the average range. (See Table 2 for descriptive statistics for this sample.)

Treatment

The treatment consisted of individualized reading tutoring.[2] The time for each child varied from 24 to 60 sessions. Each session of fifty-minutes varied in content and material, characterized by one-to-one teaching techniques[3] based on the student's individual reading problem(s).

The teachers were graduate level students majoring in reading. They participated in a training session led by the researcher during the first week of instruction.

Instrumentation

Tests used met the specific criteria set up by a committee of researchers.[5]

The Wechsler Intelligence Scale for Children-Revised (WISC-R) was used to determine IQ scores. The WISC-R consists of subtests which tap cognitive strengths in verbal and nonverbal areas. The subtests provide clues to mental abilities that may be related to reading achievement.

The Gates-MacGinitie Reading Tests are standardized silent reading tests which were given to sample reading vocabulary, to provide an estimate of the ability to read short passages

with understanding, and to indicate how rapidly a student can read with meaning. Raw scores were reported on Speed, Accuracy, Vocabulary, and Comprehension subtests. Standardized scores were not used since the subtests were normed on children from a population of abled readers.

The Miller-Avant Locus of Evaluation-Control, a forty-six item scale, yields reliability estimates of .76 for LOE factor and .85 for LOC factor by Cronbach's Alpha formula for homogenous tests. (See detailed Appendix.) Each subscale contains items which specifically relate to academics or beliefs about reading. Henceforth, the two subscales will be designated as M-A-LOE (locus of evaluation) and M-A-LOC (locus of control). LOC items are included with LOE on the test, simultaneously measuring both constructs. Item numbers preceded by "E" indicate external scoring if the item is answered "yes;" item numbers preceded by "I" indicate external scoring if the item is answered "no." The test is keyed in the external direction.

The Norwicki-Strickland Locus of Control Scale, a forty item scale, has reported split-half reliability estimates of .63 for grades 3-5; .68 for grades 6-8; and .81 for grades 9-11 (Norwicki & Strickland, 1973). The items on the NSLOC are answered either "yes" or "no" and keyed in the external direction.[6]

Procedures

Upon entrance in an individualized reading tutorial program in September, 1978, each student was administered the M-A-LOE-C (1978), the NSLOC (1973), the WISC-R (1974), and the appropriate form of the Gates-MacGinitie Reading Tests (1965) for each child. Students were not informed that they participated in a special study, but that information was helpful to the tutors. Parents, however, had filled out forms applying for entrance into the program and giving pertinent background information.

All children received one-to-one reading tutoring, 50-minutes per session, two to five times a week for twelve weeks. The sessions for each child varied in content and materials, were characterized by suggested teaching techniques,[3] and based on the child's areas of interest. At the end of twelve weeks every child was readministered the M-A-LOE-C, the NSLOC, and a parallel form of the Gates-MacGinitie Reading Tests.

Hypotheses

In order to examine the influence of reading achievement on LOC and LOE, hypotheses 1 and 2 were tested:

H_1 There is no significant dependency of posttreatment LOC on pretreatment reading achievement of disabled readers.

H_2 There is no significant dependency of posttreatment LOE on pretreatment reading achievement of disabled readers.

These hypotheses were tested using simple regression analysis.

In order to examine the effect of a tutorial reading treatment on LOC and LOE, hypotheses 3 and 4 were tested:

H_3 Posttreatment LOC will be equal to or greater than (more external than) pretreatment LOC.

H_4 Posttreatment LOE will be equal to or greater than (more external than) pretreatment LOE.

These hypotheses were tested using a *t* test for dependent samples.

Results

Hypothesis One

Simple regression analyses were used to investigate the dependency of the LOC component on four areas of reading achievement, speed, accuracy, vocabulary, and comprehension.[7] Results indicate that increase of reading speed and reading accuracy are associated with movement towards internal LOC (Table 1). Speed, when regressed on LOC, was not significant; however, accuracy predicted significant increase toward internal LOC. Thus, disabled readers tend to be more internally controlled as their skill of accuracy increases. Hence, Hypothesis 1 is rejected.

Insert Table 1 about here

Hypothesis Two

In the regression of LOE on each of the four reading skills, no significant dependencies are reported (see Table 1). Therefore, Hypothesis 2 is accepted.

Hypothesis Three

Pretreatment LOC scores indicate that the students were below the mean of both scales (NSLOC and M-A-LOC), suggesting internality of this particular student group (Table 2).

Results of the t test between pre- and post-LOC (as measured on either LOC instrument) indicate that the scores were not significantly different after treatment (see Table 2). Therefore, Hypothesis 3 is accepted.

Insert Table 2 about here

Hypothesis Four

As with the LOC measures, pretreatment LOE scores of this student group were also below the mean (Table 2). Thus, this group tended to be internal on this dimension as well.

The t test indicates that LOE scores were not significantly different. Therefore, Hypothesis 4 is accepted.

Discussion

Although a difference in either LOC and LOE was not significant after treatment, these results support recent research that reading comprehension is significantly related to LOC when LOC is defined as (1) individuals' awareness of their ability to control their personal environment and, (2) their acceptance of the responsibility of their successes and failures, and when LOC is measured by the NSLOC (Table 3).

Insert Table 3 about here

There is enough unshared variance between comprehension and M-A-LOC, as well as between comprehension and M-A-LOE, to explain why they are not related. M-A-LOE-C has reading items included in the scale. Disabled readers' attitudes or perceived abilities regarding a reading skill such as speed, accuracy, vocabulary, or comprehension may not be their true ability to perform in that skill area. They may believe they perform better than they actually do, or vice versa.

The results of this research indicate that LOC and LOE are relatively stable over the 12-week period of one-to-one tutoring (Table 4).

Insert Table 4 about here

It seems reasonable to examine the effect of time on the outcome measures since the amount of time spent in sessions of individual instruction varied with each student, from 400 minutes to 2750 minutes. Results revealed that comprehension was the only variable which was related to time (Table 5), and more concentrated time did not appear to affect the other variables.

Insert Table 5 about here

However, both age and intelligence did appear to influence the outcome measures. Indeed, age and LOC were negatively correlated (Table 6). The correlation between age and comprehension was significant and positive (Table 6). Thus, older students tended to be more internal and to comprehend better than did the younger students.

Insert Table 6 about here

Correlation coefficients of the noncognitive variables and IQ reveal that LOE is the only one which is significantly influenced by IQ (Table 7). Disabled readers with higher Performance and Full Scale scores appear to evaluate their actions by more internal standards or values than those with lower IQ scores.

Insert Table 7 about here

Conclusions

After examining the influence of reading achievement on LOC and LOE, the researcher concludes that an increase in reading accuracy is likely to influence internal LOC. That is to say, as students become more accurate in reading, they probably will become more aware of their responsibility for their behavior or actions. Findings also suggest LOE is not influenced by increased ability to read.

Broadly, the results of this study suggest that students who are disabled readers vary in levels of LOC and LOE. Upon entering the program of individual reading instruction, the students as a group were below the mean of all three affective measurements which were scored in terms of externality. These students appeared to evaluate their actions by internal values and to believe in internal control of reinforcement.

At the end of the 12-week program of individualized reading instruction, there was a significant relationship between LOC and comprehension. There was a change in the appropriate direction (movement towards internality) of both LOC and LOE by the end of instruction, although the change was not significantly different. This study concludes that

reading attitudes and reading abilities are not easily nor quickly changed.

Limitations

Any specific learning situation occurs within the context of a larger learning environment. It was expected that the larger school setting and home environment had an impact on the experiment; the children came from different environmental conditions.

There are a number of complicating variables to consider, including sex, race, and socio-economic status when investigating childrens' behaviors. Related conditions such as parental characteristics and child-rearing practices may have been limitations to the outcome of the present research.

Obviously, the nature of the sample would limit generalizing in this study. Emotional factors which are present in children who are unsuccessful and failing may confound attention, motivation, concentration, and willingness to cooperate.

In addition, the length of instruction (12 weeks) may be too short to obtain reliable measures on the dependent variables LOC, LOE, and the four tested reading skills. A longer period of time may be necessary to observe a change in readers who have deficits in fundamentals of reading and who often have poor self-concepts and lack self-confidence.

Last, the Gates-MacGinitie Reading Tests was chosen to assess reading abilities because it contains four independent areas of reading, it is well accepted in the field of reading, and it meets the criteria set up for testing instruments.[5] Nevertheless, a limitation to the use of this test appears to be that it may not test some basic skills which were improved upon, such as sight words, phonics, structural analysis, oral reading, and fundamental letter-sound associations.

Implications for Further Research

This study supports research which suggests that LOC is an important factor in determining reading achievement; thus:

(1) Further research may reveal whether or not individual instruction changes LOC and/or LOE for disabled readers if the program is longer than 12 weeks. Since LOE and time correlated with comprehension, further assessment of this noncognitive construct seems appropriate within a longer time frame:

(2) Further analysis of the multidimensional aspects of the internal control construct is called for to enable teachers as well as researchers to work more effectively with disabled readers. The reliability of the relationship between LOC, LOE, and reading would justify modification of teaching strategies to help a student's role perception as well as reading skills: and

(3) Finally, continued research with the M-A-LOE-C may provide additional insight into the personality construct of

children with reading disabilities, and research findings may lead educators to carefully consider these constructs in designing and evaluating remedial reading programs.

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Footnotes

[1]Students who had serious discrepancies between their reading ability as measured by a combination of reading tests scores and their reading potential as measured by intelligence tests were considered disabled readers.

[2]Individualized tutoring was selected because it is effective in producing a change toward internal LOC (McWilliams & McWilliams, 1976). Most of the reported studies which examined LOC and reading achievement were in traditional learning environments such as one-to-many (one teacher with many children) instructional situations. However, one study compared traditional and open classrooms (Trotta, 1975). It showed that the more-defined structure of the traditional classroom supplied students in grades 3 through 5 with a greater sense of internal control and responsibility for their achievements than those students in the open classroom. No significant differences were found on measures of reading achievement in Trotta's research (1975).

[3]Suggested teaching techniques include: (1) Teachers will use game-like activities with high-interest, low-vocabulary reading materials, based on the student's identified interest areas. (2) Teacher will give students immediate feedback, an abundance of immediate positive reinforcement, encouragement to persist, and concentrated attention in the area of individual

reading difficulty. (3) Teachers, through conversation and actions, will consciously reinforce internally-controlled behaviors, beginning, if necessary, with self-awareness, and lead students to believe they themselves have much influence over their own learning. (4) Teachers will also lead the students to evaluate their own influence. (5) Teachers will minimize anxiety over failure by assuring small successes which build upon each other toward a realistic goal. (6) Upon completion of a task, no matter how small, teachers will give generous praise. (7) Teachers will make students aware of what is expected of them; make tasks graduated, sequenced, and capable of mastery by the student--without a time limit for completion or accomplishment; consider the student's opinions in decision-making exercises; ask for reasons and discuss hypothetical situations according to responses. (8) Teachers will be cautioned not to reject answers as "wrong" but work to enable each student to believe what he thinks has dignity and worth.

[4]Teachers' training included:

I Discussion of objectives

A. To reinforce internally-controlled behaviors.

B. To lead students to believe they themselves have much influence over their own learning.

C. To help students accept personal responsibility for their success or failure.

II Discussion of strategies and techniques.[1]

III Suggestion of further reading materials:

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IV Discussion of questions regarding interrelationship of cognitive (reading) and affective (locus of control) development.

A. Do our program (individual tutoring) characteristics influence simultaneously both cognitive and affective development?

B. Does cognitive development influence affective development?

C. Does affective development produce changes in cognitive development?

V. Discussion of program characteristics.

A. Emphasis on individuality.

B. Immediate positive reinforcement.

C. Concentrated attention to individual deviation.

D. Element of enjoyment: Games, fun.

E. Cognitively: Student receives immediate correction for errors and is provided information.

F. Affectively: Student receives immediate praise for success, encouragement to persist, and acknowledgment that success was due to his behavior or action.

[5]Eight criteria for testing instruments have been set up by a committee of researchers (Melaragno, 1976):

(1) Validity and reliability must be acceptable construct.

(2) Interpretability: Test must be easy to interpret.

(3) Age appropriateness: Test must be valid for all ages in the study.

(4) Administration ease: Test must be given under normal testing circumstances at the reading center.

(5) Scoring ease: Test must be easy to score manually.

(6) Minimal response bias: Test eliminates tendency of younger children to give socially acceptable answers.

(7) Commonality across grade: Test must have parallel forms of same test.

(8) Brief testing time: Test must be given under normal testing time at the reading center.

[6]Recommendations are made regarding the administration of both affective scales:

(1) Read all instructions to all students to assess affective dimensions without contamination by reading ability.

(2) Measure affective behavior before measuring cognitive behavior so as to eliminate any frustration or negative attitude that may be expressed after an achievement test experience.

(3) Measure student's sense of change over time. Observations and questions of tutors should be noted to indicate extent to which student was aware of improvement in skills and changes in attitude and feelings.

(4) Provide a copy of the LOC and LOE instruments for the student to follow as the testor reads items aloud.

[7]Simple regression analyses are appropriate in this instance as the intracorrelations of the four measures of reading achievement, i.e. speed, accuracy, vocabulary, and comprehension, are not significant.

Appendix

The Development of the Miller-Avant Locus of Evaluation-Control Scale

In this section a description of the development of the instrument, the Miller-Avant Locus of Evaluation-Control (M-A-LOE-C), will be given. Research specifically related to this instrument will be discussed.

Reading and Locus of Control

Research studies support the belief that improved reading skills are directly related to academic achievement, role perception, and self-concept (Culver & Morgan, 1977; Ekwall, 1973; Wilson, 1972; Stauffer, 1976). There is further evidence that self-concept and sense of control are predictors of school success or failure (Miller & Woock, 1973).

A student's sense of control over events in his or her life may be viewed by that student as dependent on his or her personal behavior: this is internal locus of control. Conversely, a student's belief that events in his or her life are controlled by luck, chance, or other individuals is considered external locus of control.

Considerable research has been accomplished in developing an instrument to measure children's locus of control (Norwicki & Strickland, 1973; Miller, 1963), but no reported studies

attempted to develop a specific instrument to assess children's beliefs in reinforcement in reading achievement situations.

Reading and Locus of Evaluation

Sebeson (Ekwall, 1973) relates self-esteem and reading disabilities: "Reading, because of its importance in society, assumes great importance as a developmental task, and failure to master it may interfere with the development of a child's self-esteem." In addition, Marsh (1975) assumes the importance of a child's self-esteem and self-evaluation of his or her own relative effect on controlling his or her environment.

The internalizing of standards or values by which a person evaluates his actions is internal locus of evaluation (LOE). The dependency of a person on an external frame of reference is external LOE.

Little evidence exists of LOE's relation to academic achievement. Although Miller (1963) reports of the development of an instrument which measures a person's evaluation of his role in the environment, no reported studies attempted to develop a specific instrument to assess LOE in reading achievement situations.

There is a need for an instrument which incorporates the measurement of LOC and LOE in reading achievement

situations to enable researchers to study the relationship of reading achievement, LOC, and LOE. Therefore, the purpose of this study is to produce a reliable instrument which assesses simultaneously children's LOC and LOE, as well as beliefs in reinforcement in reading achievement situations.

Method

The Miller-Avant Locus of Evaluation-Control (M-A-LOE-C) scale is a 46-item measure which is derived from the Children's Locus of Evaluation-Control developed by Miller (1963).

Initially, 72 items were constructed: 24 LOE items, 24 LOC items, 12 LOE with reading, and 12 LOC with reading. The items were readable at fifth-sixth grade level; however, the administrator was to read all items orally to eliminate possible cause of misinterpretation for disabled readers. The control items are odd-numbered items; the evaluation items are even-numbered items. "E" or "I" before the numbers indicate "externality" or "internality," respectively, if that item is answered "Yes." The M-A-LOE-C is scored in the direction of externality. The paper and pencil test was given to a group of 4th, 5th, and 6th grade boys and girls (N=30) in a private school of a metropolitan city.

Results and Discussion

Examination of the item-total correlations revealed items with low or negative correlations. Those were deleted and 46 items remained in the final scale which was to be used in further research. The biserial item correlations are in parentheses after each item of the test. The mean for the M-A-LOE 22-item scale is 6.67 (SD=3.86). The mean for the M-A-LOC 24-item scale is 8.17 (SD=5.10).

Reliability estimates of internal consistency of the scale are .76 for the LOE factor and .85 for the LOC factor by Cronbach's Alpha formula for homogeneous tests.

Correlations of the revised 46-item M-A-LOE-C and the Norwicki-Strickland Locus of Control (NSLOC) were computed to investigate the construct validation using a sample of disabled readers (N=19). In Table 3 a clear relationship is shown. Also, test-retest sampled at a 12-week interval (Table 8) show significant correlations between each measure, LOE and LOC, as well as NSLOC. This is not true test-retest reliabilities because of the intervention of reading instruction during the 12-weeks; however, relationship can be established from this evidence.

Insert Table 8 about here

Regression analyses indicate that postest LOC scores can be predicted from pretest scores using either NSLOC or M-A-LOC. Post LOE scores can be predicted as well using the M-A-LOE (Table 4). It is thought that role perception varies in degree from person to person, and even with the same person from time to time, and in different situations. However, the present 12-week experiment revealed that LOC and LOE as measured by M-A-LOE-C remained relatively stable over that period of time (Table 4).

Conclusions

This study presents a revision of Miller's C-LOE-C, a measure of generalized locus of control and locus of evaluation for children. Research supports the validity and reliability of the new measure, Miller-Avant Locus of Evaluation-Control. The uniqueness of the M-A-LOE-C scale is that it simultaneously assesses LOE, LOC, and beliefs in reinforcement in reading achievement situations. Continued research with the instrument over a wide range of subjects and variables will provide additional construct validation. Subsequently, additional knowledge may enable researchers and teachers to learn more about reading disabilities.

Miller-Avant Locus of Evaluation-Control

Directions: This is not a test. The questions on the following pages are to find out how people your age feel about a certain thing. There are no right or wrong answers. Some people will answer a question "Yes," while other people will answer the same question "No." Your answer will depend on how you feel about the question.

Read each question carefully; then if you think the answer should be "Yes," or mostly "Yes" for you, mark your answer on the answer sheet in the "Yes" column. If you think the answer should be "No" or mostly "No" for you, mark your answer on the answer sheet in the "No" column. You must answer each question.

Examples:

		On Your Answer Sheet	
		Yes	No
A. Are all dogs black?	A.	O	●
B. Do most cats like milk?	B.	●	O

Read the question; then find the same number on your answer sheet. If you think the answer should be marked "Yes," black in the circle in the "Yes" column. If you think the answer should be marked "No," black in the circle in the "No" column.

Please do no mark on your question sheets.

I 1. Can you usually do something about it when someone gets made at you? (.37)

I 2. Is the best comparison for deciding if you're doing well the comparison you make with yourself? (.29)

I 3. Can you usually make the others stop if they're doing something you don't like? (.60)

E 4. Is it best to ask the other kids who does the best work in class? (.30)

E 5. Do you feel you can do nothing about your ability to read? (.49)

E 6. Is it best to ask other kids who is the best reader in the class? (.44)

E 7. Do you feel that you have really little choice in who are going to be your friends? (.22)

E 8. Do you usually depend on others to decide what time is the best to spend reading? (.18)

E 9. Do you usually think you have little choice in the books you read? (.22)

E 10. Do you feel that talking about what's right only makes it hard to decide? (.14)

E 11. Do you usually feel that there's not much you can do about it when your friend gets mad at you? (.36)

E 12. Is it difficult for you to tell if you've done a good job? (.45)

E 13. Does it seem like the other kids never understand your ideas and it's impossible to explain them? (.52)

E 14. Would you rather not be the umpire or referee because it's hard to decide who's right? (.19)

E 15. Even if you ask them, is it hard to get people to let you read what you want to? (.27)

E 16. Is it important that others think you are a good reader? (.17)

I 17. Can a child your age ever have his own way? (.55)

E 18. Is it important what others think about you and what you do? (.31)

E 19. Do others usually make you do what they want to do? (.28)

E 20. Are the other kids better judges of the best players when everyone is playing a game? (.47)

E 21. Do you feel that you don't have a chance to make up your own mind? (.53)

E 22. Are other kids better judges than you are of who is the best reader in the class? (.33)

E 23. Do you feel you don't have a choice about the amount of time you spend reading? (.43)

E 24. Do you feel that knowing if you've done well depends on what others think? (.57)

I 25. If another student was going to hit you, could you do anything about it? (.32)

E 26. Is it difficult to tell if you've done poorly until you find out what others think? (.21)

E 27. Does it seem like it's hard to explain to the other kids how you feel about reading? (.29)

E 28. Do you worry about what others think of your ability to read or write? (.55)

I 29. Can you ever try to be friends with another kid even if he doesn't want to? (.72)

I 30. Do you usually make up your mind without asking someone first? (.26)

E 31. Does it seem like other people never read the book you suggest? (.21)

E 32. When there's an argument about the right answer to a question in a reading assignment, do you usually give in because other kids know best? (.40)

E 33. Does it seem like other people will never do the things you want them to? (.54)

E 34. Do you have trouble making up your mind about the best book to read? (.24)

I 35. Can you usually get the kids to play the game that you want them to? (.39)

E 36. When you do something, do you find it hard to tell if it's right or wrong? (.49)

E 37. On the days you read or write well, is it because of good luck? (.22)

E 38. When you answer a question about what you've read, do you find it hard to tell if it's right or wrong until someone else gives the answer? (.16)

I 39. Can you usually get the kids to like you? (.53)

E 40. Do you have trouble making up your mind about the best thing to do? (.28)

E 41. Even if you ask them, is it hard to get people to do things for you? (.54)

E 42. When there's an argument about the right thing to do, do you usually give in because the other kids know best? (.49)

I 43. Kids your age can never change things that are happening in the world, can they? (.38)

E 44. Do you find it's hard to get along without worrying about what others think? (.26)

E 45. Do you feel that no matter what happens tomorrow there's nothing you can do about it? (.43)

E 46. Do you usually make up your mind without asking someone first? (.26)

Table 1

Regression Data

	Posttest Personality Variables								
N=19	NSLOC			M-A-LOE			M-A-LOC		
Pretest Skills	r	b	F	r	b	F	r	b	F
Speed	-.47	-.48	3.14	-.36	-.32	1.34	-.54*	-.47	4.50
Accuracy	-.56*	-.60	4.95*	-.41	-.42	2.25	-.64**	-.60	7.81*
Vocabulary	.09	.72	.16	-.13	-.92	.28	-.07	-.45	.08
Comprehension	-.37	-.14	2.76	.02	.85	.01	-.08	-.25	.10

* $p < .05$

** $p < .01$

Table 2

Means and Standard Deviations

N=19	Pretreatment		Posttreatment		
Variables	$\bar{X}$	SD	$\bar{X}$	SD	t
NSLOC	14.21	5.08	12.89	4.59	-1.57
M-A-LOE	6.95	3.39	6.32	4.40	- .71
M-A-LOC	7.52	3.85	6.11	4.01	-1.33
Speed	17.08	4.55	19.67	7.46	1.37
Accuracy	16.23	4.28	17.75	5.56	1.01
Vocabulary	30.74	6.04	31.05	6.48	.22
Comprehension	32.68	12.25	33.53	11.85	.57
Verbal IQ	101.26	14.06			
Performance IQ	103.89	11.82			
Full Scale IQ	102.84	13.21			
Age	11.95	3.05			

* $p < .05$

Table 3

Correlation Coefficients of

Posttest Variables with Posttest Variables

N = 19	Variables					
Variables	M-A-LOE	M-A-LOC	Speed	Accuracy	Vocabulary	Comprehension
NSLOC	.34	.66***	.15	.01	.31	-.49*
M-A-LOE	1.00	.62**	.36	.12	.25	.11
M-A-LOC		1.00	.25	.09	.32	-.18
Speed			1.00	.88***	-.19	-.03
Accuracy				1.00	.09	.25
Vocabulary					1.00	.25

*p < .05
**p < .01
***p < .001

Table 4

Regression of Posttest LOE and LOC

with Pretest LOE and LOC

N = 19	Statistics		
Variables	r	b	F
NSLOC	.72***	.65	17.99***
M-A-LOE	.53**	.69	6.78*
M-A-LOC	.87***	.91	54.91***

* $p < .05$

** $p < .01$

*** $p < .001$

Table 5

Regression of Posttests with Time

N = 19	$\bar{X}$	SD
Time[1]	1336.15	892.86

Variables	Statistics		
	r	b	F
NSLOC	-.19	-1.00	.66
M-A-LOE	-.04	-.18	.02
M-A-LOC	-.01	-.39	.001
Speed	-.20	-.17	.41
Accuracy	-.24	-.15	.59
Vocabulary	.25	.18	1.10
Comprehension	.39*	.52	3.07

* $p < .05$

[1] recorded in minutes

Table 6

Simple Regression of Posttest LOC and Comprehension with Age

N = 19	NSLOC			Comprehension		
	r	b	F	r	b	F
Age	-.51*	-.76	5.81*	.75***	2.91	21.74***

* $p < .05$

*** $p < .001$

Table 7

Correlation Coefficients of IQ

and Posttreatment Variables

N = 19	IQ measured by WISC-R		
Posttreatment Variables	Verbal	Performance	Full
NSLOC	-.25	-.35	-.31
M-A-LOE	-.26	-.54**	-.39*
M-A-LOC	-.15	-.29	-.21
Speed	-.18	-.50*	-.34
Accuracy	.05	-.15	-.04
Vocabulary	-.02	.10	.02
Comprehension	.14	.28	.23

Regression of LOE with IQ

	r	b	F
M-ALOE	-.54**	-.20	6.96*

* $p < .05$

** $p < .01$

Table 8

Correlation Coefficients of

Posttest Variables with Pretest Variables

N = 19	Age and Pretest Noncognitive Variables			
	Age	NSLOC	M-A-LOE	M-A-LOC
Posttests				
NSLOC	-.51*	.72***	.46*	.74***
M-A-LOE	.03	.38*	.53**	.56**
M-A-LOC	-.32	.61**	.46*	.87***
Speed	.09	.45	.40	.06
Accuracy	.17	.12	.21	-.04
Vocabulary	-.04	-.03	.09	.25
Comprehension	.75***	-.42*	-.27	-.33
	Pretest Cognitive Variables			
	Speed	Accuracy	Vocabulary	Comprehension
NSLOC	-.47	-.56*	.10	-.37
M-A-LOE	-.33	-.41	-.13	.02
M-A-LOC	-.54*	-.64**	-.07	-.08
Speed	.14	.04	-.61*	-.12
Accuracy	.14	.10	-.34	.22
Vocabulary	-.19	-.04	.50*	-.12
Comprehension	.29	.41	.25	.70***

*$p < .05$

**$p < .01$

***$p < .001$